



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,395	10/12/2001	Austin H. Lesea	X-742 US	2798

24309 7590 05/18/2005

XILINX, INC  
ATTN: LEGAL DEPARTMENT  
2100 LOGIC DR  
SAN JOSE, CA 95124

EXAMINER

CONNOLLY, MARK A

ART UNIT	PAPER NUMBER
----------	--------------

2115

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,395

Applicant(s)

LESEA ET AL.

Examiner

Mark Connolly

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-12,18-24 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4 and 5 is/are allowed.
- 6) ☒ Claim(s) 6,7,12,18,19,24 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 8-11 and 20-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-2, 4-12, 18-24 and 28-31 have been presented for examination.
2. Applicant's arguments with respect to claim 1-2, 4-12 and 18-24 have been considered but are moot in view of the new ground(s) of rejection.

### ***Specification***

3. The disclosure is objected to because of the following informalities: It is unclear as to why both the critical circuit 207 and memory 203 each store a charging algorithm and methodology for battery 206 [¶'s 40-41 and 43]. Because the critical circuit 207 is described as "the previously described BRAM for providing information regarding one or more batteries," and because it is explicitly taught that "charging algorithm and charging methodology ... can be stored in the BRAM" it is interpreted that the critical circuit 207 stores a charging algorithm and charging methodology. Lastly, it is unclear as to which memory (i.e. critical circuit 207 or memory 203) is responsible for providing the charging algorithm and methodology to be used for charging battery 206. For examination purposes, it is interpreted that only the memory, NOT the critical circuit, stores the charging algorithm and charging methodology

Appropriate correction is required.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "voltage detector adapted to switch coupling of the first circuit from the first voltage pin to the second voltage pin" in Claim 28 and the "voltage detector ... adapted to switch coupling of the first circuit from the first

Art Unit: 2115

voltage pin to one of the second and third voltage pins” in Claim 29 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 28-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

Art Unit: 2115

art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not explicitly teach how a voltage detector is adapted to switch coupling of a first circuit from a first voltage pin to a second or third voltage pin in response to a voltage drop at the first voltage pin. Rather, the specification only describes the voltage detector detecting a voltage drop on VCC Pin 204, which is NOT switchably coupled to a first circuit. In addition, the specification also does not teach the voltage detector switching the coupling of the first circuit from the first voltage pin to one of the second or third voltage pins. Rather, the switching is performed by the battery controller 201 and a Mux 306. The voltage detector merely connects or disconnects the critical circuit, interpreted here as the first circuit, to Mux 306 and does not actually perform any switching between voltage pins.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patino<sup>1</sup> in view of Fernandez<sup>2</sup> in view of Townsley<sup>3</sup>.

9. Referring to claim 6, Patino teaches the invention substantially including:

- a. a first battery voltage pin [22 and 26 fig. 1].
- b. a battery controller connected to the first battery voltage pin [38 fig. 1].

---

<sup>1</sup> As cited in the previous office action.

<sup>2</sup> As cited in the previous office action.

<sup>3</sup> As cited in the previous office action.

Art Unit: 2115

c. at least one critical circuit implemented in programmable logic of the PLD and connected to the first battery voltage pin [38 fig. 1, col. 1 lines 63-68 and col. 4 lines 32-40]. The microprocessor 38 is interpreted as comprising both the battery controller and the at least one critical circuit. In particular, the microprocessor is configured to provide different charging schemes for a plurality of different batteries “available now and in the future” [col. 1 lines 63-68]. The microprocessor is interpreted as comprising a processing portion and a configuring portion. The processing portion is interpreted as the battery controller and the portion of the microprocessor which stores and configures the microprocessor according to the plurality of charging algorithms is interpreted as the at least one critical circuit. The “CHARGE SUB-ROUTINES” portion of microprocessor 38 [fig. 1] is interpreted as the portion used to configure the microprocessor to provide a particular charging scheme.

d. a voltage source pin connected to the at least one critical circuit [28 fig. 1]. It is interpreted that the AC power in powers the entire charging circuit.

Although Patino teaches the battery controller and critical circuit, it is not explicitly taught that the battery controller and critical circuit are selectively coupled to the battery voltage pins. Fernandez explicitly teaches a battery selectively connected to a battery charger [col. 1 lines 60-65]. In particular, when it is determined that a battery is fully charged, the battery should be disconnected from the charger to prevent an over-voltage condition on the battery. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Fernandez into the Patino system because it would allow the Patino system to protect batteries from over-voltage and thus protecting them from damage resulting from over-

Art Unit: 2115

voltage. Because the battery in the Patino-Fernandez system must be disconnected from the charger, it is interpreted that upon disconnect, both the battery controller and critical circuit are disconnected from the battery voltage pin since the charging is controlled by both the battery controller and critical circuit.

Although the Patino-Fernandez system teaches selectively connecting the battery controller and critical circuit to a battery voltage pin, it is not explicitly taught that the battery controller and critical circuit are selectively connected to a second battery voltage pin through the use of a selector arrangement. Townsley explicitly teaches a system which comprise two battery voltage pins [fig. 4]. In addition Townsley further teaches charging batteries with different technologies simultaneously via a sequential (staggered) charging scheme [col. 3 line 64-col. 4 line 9 and col. 5 lines 18-23]. It would have been obvious to one of ordinary skill in the art to include the teachings of Townsley into the Patino-Fernandez system because it would enable the system to charge multiple batteries with different technologies. Because the Patino-Fernandez system comprises only one battery controller and one critical circuit, it is obvious that the Patino-Fernandez-Townsley system would selectively connect the battery controller and critical circuit to only the battery currently being charged in order to prevent any damage to the other battery due to an non-compatible charging algorithm.

10. Referring to claim 7, because the Patino-Fernandez-Townsley system selectively connects the battery controller and critical circuit to one of the battery voltage pins, it would have been obvious to one of ordinary skill in the art to make this connection through the use of a demultiplexer (DEMUX) because it is well known that DEMUX's establish a connection between a common port and a plurality of other ports.

Art Unit: 2115

11. Referring to claim 12, because the battery controller provides a plurality of charging schemes, it is interpreted that the battery controller is configured according to a particular charging scheme.

12. Referring to claim 18, this is rejected on the same basis as set forth hereinabove. Patino, Fernandez and Townsley teach the system and therefore teach the method performed by the system. In addition, Patino teaches that the charging algorithms can be stored on a RAM. A RAM is interpreted as a volatile memory.

13. Referring to claims 19 and 24, these are rejected on the same basis as set forth hereinabove.

#### ***Allowable Subject Matter***

14. Claims 1-2 and 4-5 are allowed.

15. Claims 8-11 and 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

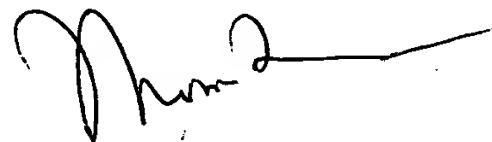


Art Unit: 2115

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly  
Examiner  
Art Unit 2115

mc  
May 10, 2005



THOMAS LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100